European Commission

Period covered: 1 July - 20 August
Issued: 26 August 2013

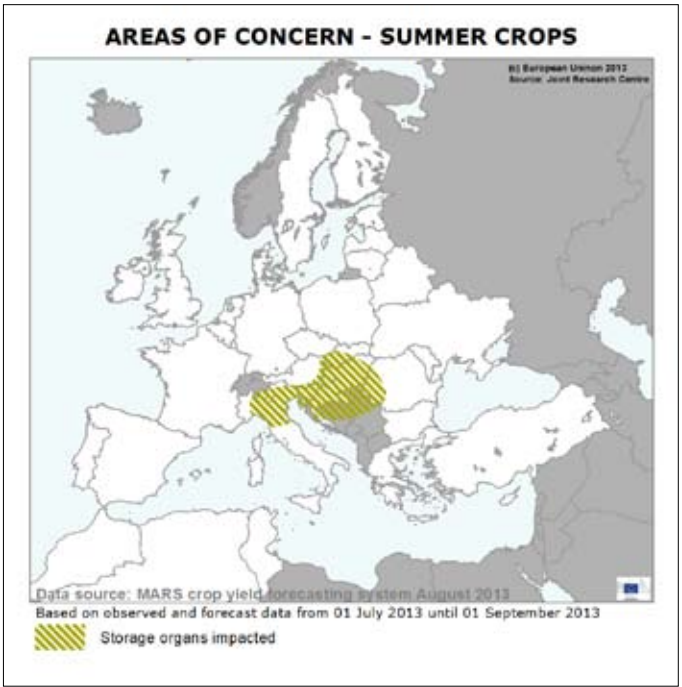
Crop Monitoring in Europe

MARS BULLETIN Vol.21 No. 8 (2013)

Outlook remains good despite hot and dry conditions

Since the beginning of July, major parts of Europe experienced weather conditions with above-average temperatures and below-average rainfall. Dry and hot conditions have particularly affected summer crop growth in northern Italy and parts of Hungary, Austria, Slovenia and Croatia. Abundant rainfall was recorded over large parts of the British Isles, Scandinavia, the Baltic countries, south-eastern France and the Alpine region.

On balance, the EU-28 outlook for cereals remains favourable and well above both last year's levels and the 5-year average, and largely confirms the forecast of July. The forecast for soft wheat is revised slightly upwards as compared to last month's figures, mainly thanks to higher forecast yields for the Czech Republic, Bulgaria, Romania and Austria. The forecasts for durum wheat, barley and rye remain practically unaltered. The forecast for triticale was revised slightly upward. Rapeseed yield estimates for the EU-28 are also revised slightly upward, mainly thanks to good performance in Poland and Romania. The forecast for maize was reduced, however, mainly due to a strong downward revision for Hungary, the EU's third largest grain maize producer. The forecasts for the other main spring and summer crops: sunflower, sugar beet and potato, are also (yet slightly) reduced at EU-28 level.



Crop	Yield t/ha				
	2012	MARS 2013 forecasts	Avg 5yrs	%13/12	%13/5yrs
TOTAL CEREALS	4.89	**5.27**	5.07	+7.9	+4.1
Total Wheat	5.18	**5.47**	5.37	+5.5	+1.8
soft wheat	5.42	**5.71**	5.63	+5.3	+1.5
durum wheat	3.13	**3.32**	3.21	+6.1	+3.7
Total Barley	4.40	**4.80**	4.39	+9.0	+9.2
spring barley	3.94	**4.34**	3.83	+10.1	+13.1
winter barley	5.21	**5.51**	5.25	+5.8	+4.9
Grain maize	6.08	**6.97**	6.99	+14.7	-0.3
Rye	3.72	**3.72**	3.34	+0.0	+11.5
Triticale	4.18	**4.22**	4.06	+1.2	+3.9
Other cereals	3.08	**3.32**	3.07	+7.5	+8.0
Rape and turnip rape	3.11	**3.10**	3.04	-0.5	+1.8
Potato	30.49	**31.66**	30.57	+3.8	+3.6
Sugar beet	69.69	**69.76**	69.71	+0.1	+0.1
Sunflower	1.68	**1.91**	1.83	+13.7	+4.0

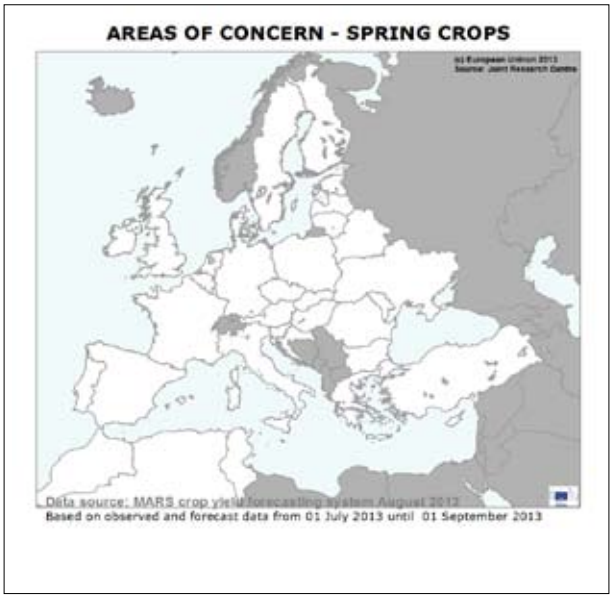
issued: 23 August 2013

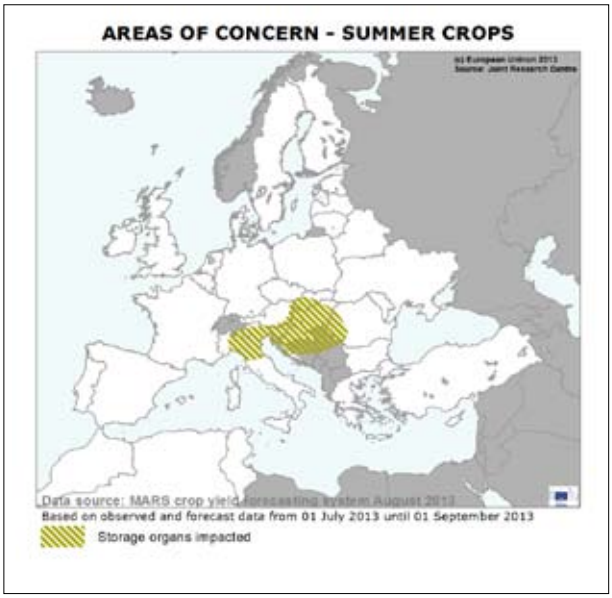
Joint Research Centre

1. Agro-meteorological overview

1.1 Areas of concern

Northern Italy experienced unusually hot conditions, with several hot spells between mid-July and the beginning of August. The already suboptimal conditions for maize growth due to late sowing have thus worsened, with an acceleration of phenological development that has shortened the grain-filling phase. Similar conditions are observed at the borders between Hungary, Austria, Slovenia and Croatia. In these countries, dry and hot conditions have affected crop growth, and shortened the reproductive and grain-filling phases of summer crops, which are critical for yield formation.





1.2 Agro-meteorological review (1 July – 20 August)

Air temperatures above average were observed over major parts of Europe. Several hot spells occurred over the Mediterranean region and in the northern part of the Black Sea region. Abundant rainfall (>100 mm) was recorded over large parts of the British Isles, Scandinavia, the Baltic countries, Russia, south-eastern France as well as the Alpine region. In the remaining regions of central and eastern Europe as well as the Benelux countries, conditions tended to be drier than usual.

Observed temperatures

Warmer-than-usual conditions were recorded over eastern Europe during the first half of July, with average daily temperatures 2°C to 4°C above the long-term average in the southern part of Russia and eastern part of Ukraine. Significantly warmer-than-usual temperatures were also recorded over the western part of the Iberian Peninsula, with average daily temperatures up to 8°C above the long-term average.

During the second half of July, colder-than-usual conditions predominated in Russia, Belarus, Ukraine, southern Finland, Turkey and the western part of the Iberian Peninsula, with average daily temperatures 2°C to 4°C below the long-term average in the central part of Russia. By contrast, positive temperature anomalies in the range of 2°C and 4°C were recorded in France, Germany, Denmark, the Benelux countries, the UK, Ireland, Austria, the Czech Republic, western Poland, Slovenia and north-eastern Italy.

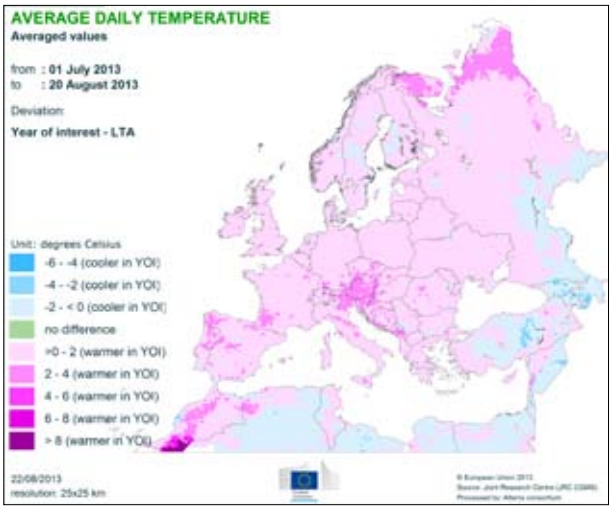
During the first two dekads of August, temperatures were above average over the whole of Europe with the exception of north-western France and Turkey, where negative average temperature anomalies in the range of -2°C to -4°C were recorded. The average temperature exceeded the long-term average by between 2°C and 4°C in south- western Poland, Austria, the eastern part of the Czech Republic, western Romania, the Balkan Peninsula, Italy and central part of Russia. The temperature sum for the period as a whole (1 June to 20 August) exceeded the long-term average by more than 100 degree days over eastern Europe, the Baltic countries, Finland, Austria, south-western Germany, the Czech Republic, Slovakia, Slovenia and north-eastern and eastern Italy and Sicily. Maximum daily temperatures of over 30°C occurred for more than 35 days during the analysis period over southern Spain, Greece, northern Italy and Tuscany and around the Mediterranean coast of Turkey. Maximum daily air temperatures reached between 38°C and 40°C in the western and southern part of the Iberian Peninsula, Italy, Hungary and the Balkan Peninsula.

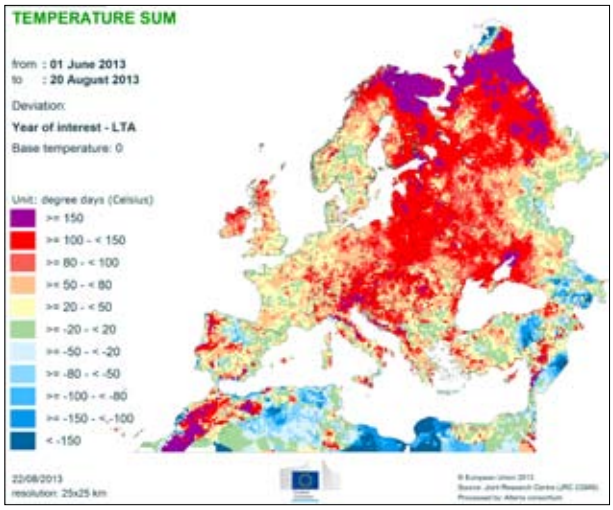
Observed rainfall

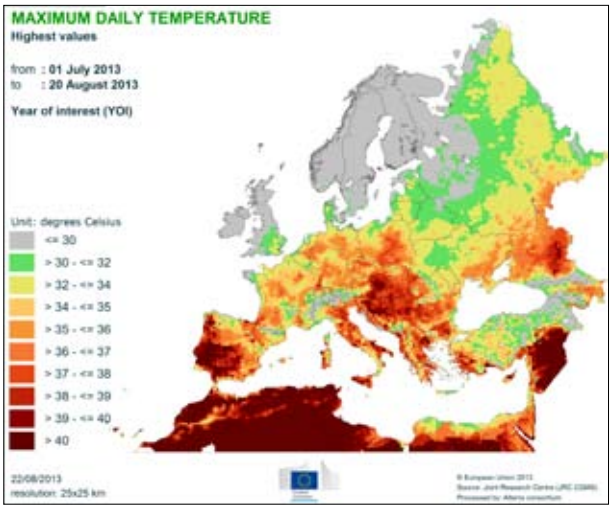
From 1 to 15 of July lower-than-usual precipitation (>30 mm below average) was recorded over northern Italy, southern Germany, the Czech Republic, the central part of Ukraine, the western part of France and the British Isles. In contrast, rainfall locally exceeded the long-term average by more than 50 mm over the northern Black Sea regions and the northern part of Poland.

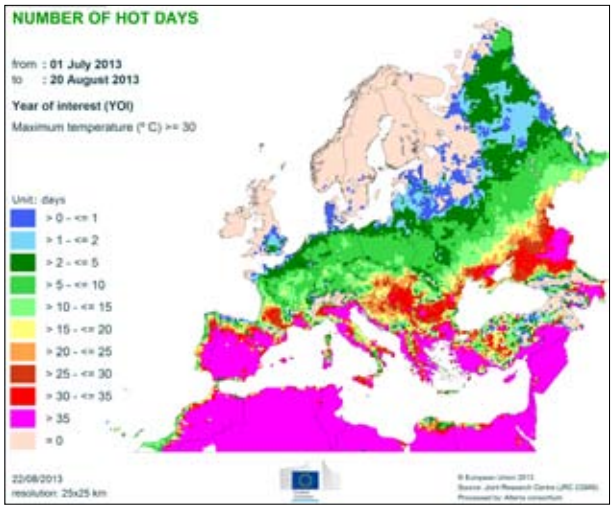
The cumulated rainfall recorded from 16 to 31 of July exceeded the long-term average by more than 50 mm in southern and western France, central Russia, Ireland and the northern part of the UK. During this period, dry conditions continued over southern Germany, northern Italy and the Ukraine, and also occurred in Austria, southern and eastern Poland, Hungary and Slovenia. Normal rainfall conditions were observed elsewhere.

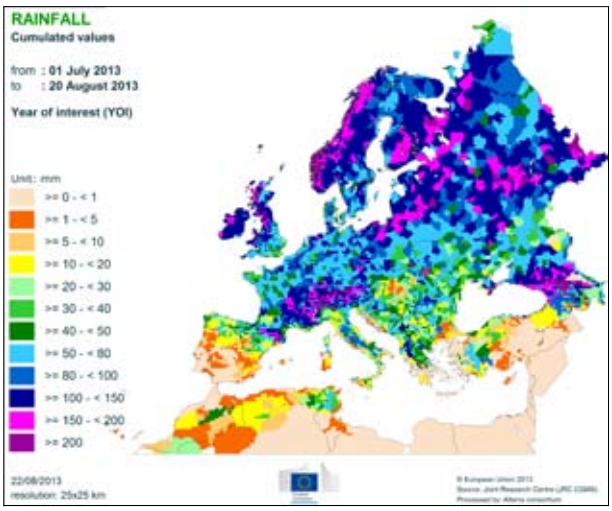
During the first two dekads of August, drier-than-usual conditions prevailed in north-eastern Italy and eastern Europe. Average precipitation prevailed elsewhere in Europe.

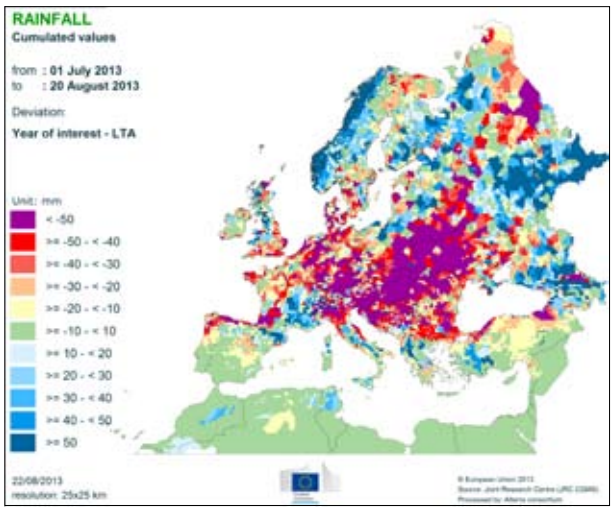

AVERAGE DAILY TEMPERATURE
Averaged values
from : 01 July 2013
to : 20 August 2013
Deviation:
Year of interest - LTA
Unit: degrees Celsius
-6 - -4 (cooler in YOI)
-4 - -2 (cooler in YOI)
-2 - < 0 (cooler in YOI)
no difference
>0 - 2 (warmer in YOI)
2 - 4 (warmer in YOI)
4 - 6 (warmer in YOI)
6 - 8 (warmer in YOI)
> 8 (warmer in YOI)
22/08/2013
resolution: 25x25 km


TEMPERATURE SUM
from : 01 June 2013
to : 20 August 2013
Deviation:
Year of interest - LTA
Base temperature: 0
Unit: degree days (Celsius)
>= 150
>= 100 - < 150
>= 80 - < 100
>= 50 - < 80
>= 20 - < 50
>= -20 - < 20
>= -50 - < -20
>= -80 - < -50
>= -100 - < -80
>= -150 - <-100
< -150
22/08/2013
resolution: 25x25 km


MAXIMUM DAILY TEMPERATURE
Highest values
from : 01 July 2013
to : 20 August 2013
Year of interest (YOI)
Unit: degrees Celsius
<= 30
> 30 - <= 32
> 32 - <= 34
> 34 - <= 35
> 35 - <= 36
> 36 - <= 37
> 37 - <= 38
> 38 - <= 39
> 39 - <= 40
> 40
22/08/2013
resolution: 25x25 km

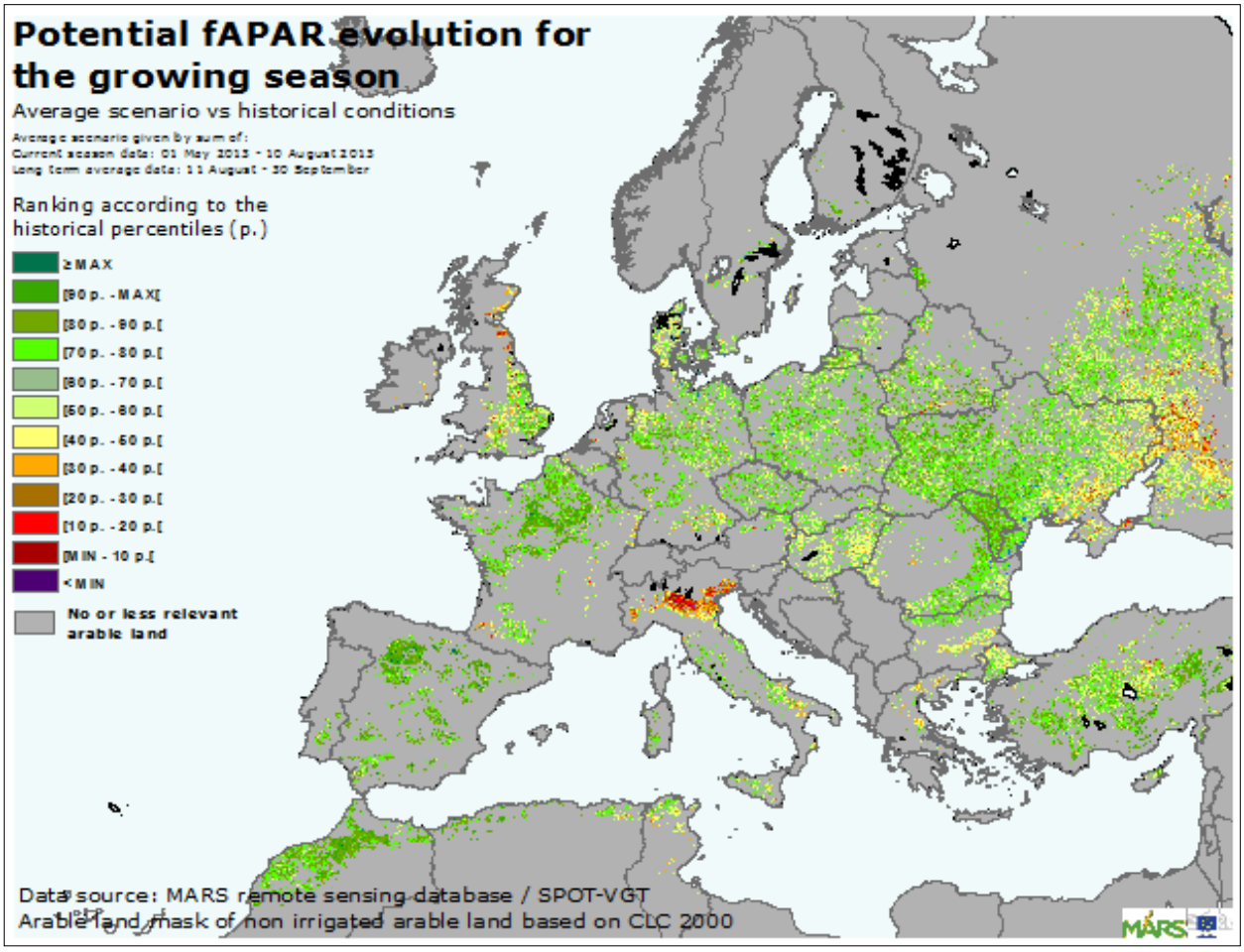

NUMBER OF HOT DAYS
from : 01 July 2013
to : 20 August 2013
Year of interest (YOI)
Maximum temperature (° C) >= 30
Unit: days
> 0 - <= 1
> 1 - <= 2
> 2 - <= 5
> 5 - <= 10
> 10 - <= 15
> 15 - <= 20
> 20 - <= 25
> 25 - <= 30
> 30 - <= 35
> 35
= 0
22/08/2013
resolution: 25x25 km


RAINFALL
Cumulated values
from : 01 July 2013
to : 20 August 2013
Year of interest (YOI)
Unit: mm
>= 0 - < 1
>= 1 - < 5
>= 5 - < 10
>= 10 - < 20
>= 20 - < 30
>= 30 - < 40
>= 40 - < 50
>= 50 - < 80
>= 80 - < 100
>= 100 - < 150
>= 150 - < 200
>= 200
22/08/2013
resolution: 25x25 km

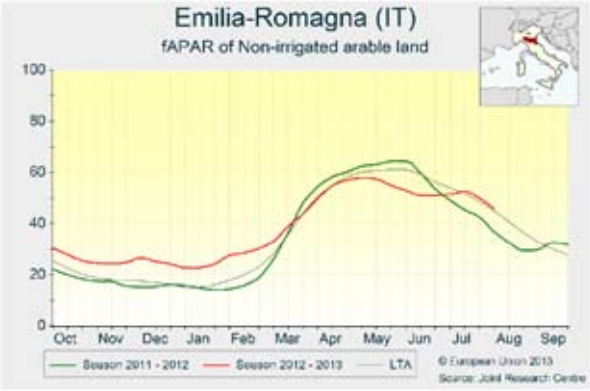

RAINFALL
Cumulated values
from : 01 July 2013
to : 20 August 2013
Deviation:
Year of interest - LTA
Unit: mm
< -50
>= -50 - < -40
>= -40 - < -30
>= -30 - < -20
>= -20 - < -10
>= -10 - < 10
>= 10 - < 20
>= 20 - < 30
>= 30 - < 40
>= 40 - < 50
>= 50
22/08/2013
resolution: 25x25 km

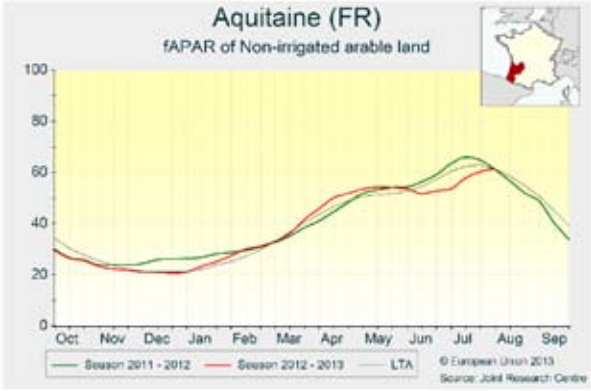
2. Remote Sensing analysis - observed canopy conditions

Poor summer development in northern Italy. Continued recovery in the United Kingdom. Good season for western and central European countries.

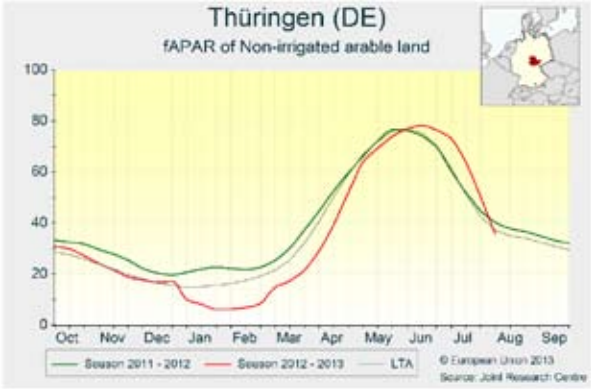


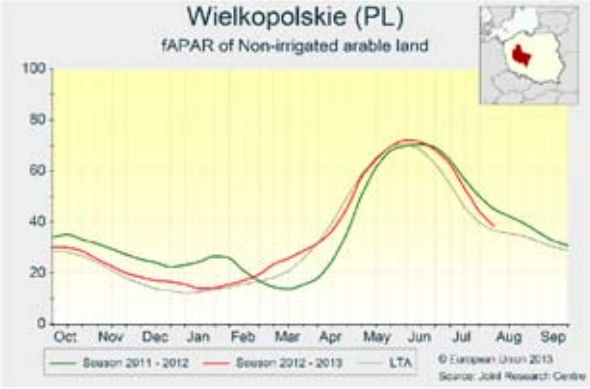
The map reflects green biomass accumulation over Europe projected until the end of the growing season, as compared to past years. It therefore indicates whether the current season is close to normal or extreme. On the **Iberian Peninsula** canopy conditions of summer crops continue to benefit from the good start to the season; irrigation reservoirs are sufficiently filled to support their development until the end of the season. Northern **Italy** experienced a strong rain deficit and several hot spells in July and early August with an impact on the flower fertility of maize and other summer crops, and at the same time accelerating the phenological development, leading to a further shortening of their growth cycle, which had already been affected by late sowing (e.g. *Emilia Romagna*). As a consequence, overall green biomass accumulation is foreseen to be around the historical minimum for the whole *Padania* plain. **France** shows a very good canopy development for both spring and winter crops. The main summer crop regions in the south benefitted from high temperatures and dry conditions in July. The weather conditions also allowed for a partial recovery of the canopy status in *Aquitaine*, which had been affected by heavy rainfall in June, even though green biomass still ranges around the historical minimum. In the **United Kingdom**, conditions have further recovered from the effects of the very cold spring reported in previous bulletins. The growing season is slightly shortened compared to the average, but is otherwise close to normal; total biomass accumulation over the period since 1 May has even been above-average in the southern regions. In **Germany**, the season is almost finished for spring and winter crops (e.g. *Thüringen*), while summer crops are experiencing good growth conditions thanks to high temperatures and sufficient soil moisture. **Poland**, the **Czech Republic** and several other parts of central Europe are also experiencing a good season, as shown by the positive biomass anomalies on the map. In southern **Hungary** (e.g. *Del Dunantul*), eastern **Austria** and **Slovenia**, however, the hot and dry conditions during July caused a significant moisture deficit, which affected the growth of summer crops. In **Romania** and **Bulgaria** (e.g. *Severen Tsentralen*), the season for winter and spring crops has finished, and summer crops are benefitting from sufficient soil moisture and high temperatures. In **Ukraine**, the western and central regions are showing a very positive biomass accumulation (e.g. *Kirovohrads'ka*). Concerns, however, relate to the eastern regions of Ukraine and neighboring areas in **Russia**, where high temperatures have led to a shortening of the grain-filling phase and to an early senescence, with negative effects on grain yields.

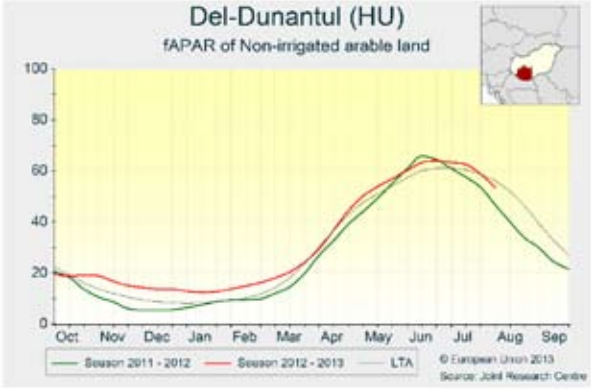

Emilia-Romagna (IT)
fAPAR of Non-irrigated arable land
100
80
60
40
20
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2011 - 2012
Season 2012 - 2013
LTA
© European Union 2013
Source: Joint Research Centre

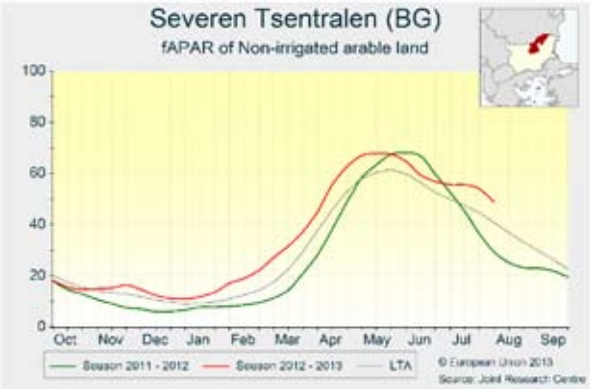

Aquitaine (FR)
fAPAR of Non-irrigated arable land
100
80
60
40
20
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2011 - 2012
Season 2012 - 2013
LTA
© European Union 2013
Source: Joint Research Centre


East Anglia (UK)
fAPAR of Non-irrigated arable land
100
80
60
40
20
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2011 - 2012
Season 2012 - 2013
LTA
© European Union 2013
Source: Joint Research Centre


Thüringen (DE)
fAPAR of Non-irrigated arable land
100
80
60
40
20
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2011 - 2012
Season 2012 - 2013
LTA
© European Union 2013
Source: Joint Research Centre


Wielkopolskie (PL)
fAPAR of Non-irrigated arable land
100
80
60
40
20
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2011 - 2012
Season 2012 - 2013
LTA
© European Union 2013
Source: Joint Research Centre


Del-Dunantul (HU)
fAPAR of Non-irrigated arable land
100
80
60
40
20
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2011 - 2012
Season 2012 - 2013
LTA
© European Union 2013
Source: Joint Research Centre


Severen Tsentralen (BG)
fAPAR of Non-irrigated arable land
100
80
60
40
20
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2011 - 2012
Season 2012 - 2013
LTA
© European Union 2013
Source: Joint Research Centre


Kirovohrads'ka (Ukraine)
fAPAR of Non-irrigated arable land
100
80
60
40
20
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2011 - 2012
Season 2012 - 2013
LTA
© European Union 2013
Source: Joint Research Centre

4. Crop yield forecasts and yield maps

Country	TOTAL WHEAT (t/ha)					SOFT WHEAT (t/ha)					DURUM WHEAT (t/ha)				
	2012	2013	Avg 5yrs	%13/12	%13/5yrs	2012	2013	Avg 5yrs	%13/12	%13/5yrs	2012	2013	Avg 5yrs	%13/12	%13/5yrs
EU28	5.18	**5.47**	5.37	+5.5	+1.8	5.42	**5.71**	5.63	+5.3	+1.5	3.13	**3.32**	3.21	+6.1	+3.7
AT	4.14	**5.42**	5.13	+30.9	+5.7	4.19	**5.46**	5.17	+30.2	+5.5	3.07	**4.53**	4.34	+47.9	+4.4
BE	8.27	**8.70**	8.74	+5.2	-0.5	8.27	**8.70**	8.74	+5.2	-0.5	-	-	-	-	-
BG	3.76	**4.07**	3.71	+8.2	+9.8	3.78	**4.08**	3.70	+8.0	+10.1	2.68	**3.70**	3.85	+37.7	-4.1
CY	2.24	**2.11**	2.9	-6.0	-27.2	-	-	-	-	-	2.24	**2.11**	2.90	-6.0	-27.2
CZ	4.32	**5.42**	5.22	+25.6	+3.9	4.32	**5.42**	5.22	+25.6	+3.9	-	-	-	-	-
DE	7.33	**7.70**	7.49	+5.0	+2.7	7.34	**7.70**	7.50	+5.0	+2.7	4.91	**5.31**	5.34	+8.3	-0.6
DK	7.37	**7.19**	7.27	-2.5	-1.2	7.37	**7.19**	7.27	-2.5	-1.2	-	-	-	-	-
EE	3.90	**3.24**	3.13	-17.0	+3.4	3.90	**3.24**	3.13	-17.0	+3.4	-	-	-	-	-
ES	2.35	**3.55**	2.93	+51.4	+21.2	2.64	**3.75**	3.19	+41.8	+17.5	1.08	**2.68**	2.06	+148.4	+30.3
FI	3.93	**3.75**	3.77	-4.8	-0.7	3.93	**3.75**	3.77	-4.8	-0.7	-	-	-	-	-
FR	7.15	**7.02**	7.02	-1.8	+0.0	7.30	**7.15**	7.19	-2.1	-0.5	5.45	**5.26**	5.06	-3.4	+3.9
GR	2.42	**2.64**	2.74	+8.9	-3.9	2.83	**2.71**	2.99	-4.1	-9.4	2.31	**2.62**	2.66	+13.3	-1.8
HR	5.35	**4.96**	4.86	-7.3	+2.0	5.35	**4.96**	4.86	-7.3	+2.0	-	-	-	-	-
HU	3.73	**4.54**	4.10	+21.5	+10.8	3.73	**4.54**	4.10	+21.7	+10.9	3.70	**4.07**	3.80	+9.7	+7.0
IE	8.53	**8.34**	8.83	-2.2	-5.6	8.53	**8.34**	8.83	-2.2	-5.6	-	-	-	-	-
IT	4.13	**3.86**	3.83	-6.6	+0.8	5.89	**5.28**	5.39	-10.4	-2.0	3.32	**3.21**	3.14	-3.4	+2.0
LT	4.78	**4.10**	3.99	-14.4	+2.7	4.78	**4.10**	3.99	-14.4	+2.7	-	-	-	-	-
LU	5.87	**6.19**	6.12	+5.6	+1.2	5.87	**6.19**	6.12	+5.6	+1.2	-	-	-	-	-
LV	4.37	**3.76**	3.64	-13.8	+3.4	4.37	**3.76**	3.64	-13.8	+3.4	-	-	-	-	-
MT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NL	8.52	**8.60**	8.65	+1.0	-0.5	8.52	**8.60**	8.65	+1.0	-0.5	-	-	-	-	-
PL	4.14	**4.31**	4.18	+4.1	+3.1	4.14	**4.31**	4.18	+4.1	+3.1	-	-	-	-	-
PT	1.19	**2.20**	1.55	+85.2	+42.3	1.19	**2.20**	1.55	+85.2	+42.3	-	-	-	-	-
RO	2.61	**3.43**	2.96	+31.3	+15.8	2.61	**3.43**	2.96	+31.3	+15.8	-	-	-	-	-
SE	6.26	**5.85**	5.84	-6.5	+0.2	6.26	**5.85**	5.84	-6.5	+0.2	-	-	-	-	-
SI	5.43	**4.63**	4.78	-14.9	-3.2	5.43	**4.63**	4.78	-14.9	-3.2	-	-	-	-	-
SK	3.30	**4.03**	4.03	+22.2	+0.0	3.30	**4.03**	4.03	+22.2	+0.0	-	-	-	-	-
UK	6.66	**7.73**	7.66	+16.1	+1.0	6.66	**7.73**	7.66	+16.1	+1.0	-	-	-	-	-

Country	TOTAL BARLEY(t/ha)					SPRING BARLEY(t/ha)					WINTER BARLEY (t/ha)				
	2012	2013	Avg 5yrs	%13/12	%13/5yrs	2012	2013	Avg 5yrs	%13/12	%13/5yrs	2012	2013	Avg 5yrs	%13/12	%13/5yrs
EU28	4.40	**4.80**	4.39	+9.0	+9.2	3.94	**4.34**	3.83	+10.1	+13.1	5.21	**5.51**	5.25	+5.8	+4.9
AT	4.40	**5.16**	4.86	+17.3	+6.3	3.44	**4.25**	4.13	+23.4	+2.8	5.29	**5.91**	5.61	+11.6	+5.4
BE	7.95	**8.40**	8.43	+5.5	-0.4	-	-	-	-	-	7.95	**8.40**	8.43	+5.5	-0.4
BG	3.47	**3.81**	3.66	+9.8	+4.2	-	-	-	-	-	3.47	**3.81**	3.66	+9.8	+4.2
CY	1.71	**1.41**	1.65	-17.5	-14.4	-	-	-	-	-	1.71	**1.41**	1.65	-17.5	-14.4
CZ	4.23	**4.36**	4.39	+3.1	-0.7	4.31	**4.32**	4.33	+0.1	-0.3	3.98	**4.49**	4.54	+12.7	-1.1
DE	6.19	**6.38**	6.11	+3.0	+4.5	5.64	**5.22**	5.09	-7.4	+2.6	6.49	**6.72**	6.48	+3.4	+3.7
DK	5.61	**5.36**	5.32	-4.4	+0.7	5.49	**5.21**	5.17	-5.0	+0.8	6.37	**5.90**	5.94	-7.5	-0.8
EE	3.13	**2.68**	2.65	-14.3	+1.3	3.13	**2.68**	2.65	-14.3	+1.3	-	-	-	-	-
ES	2.23	**3.92**	2.74	+75.5	+43.1	2.27	**3.94**	2.8	+73.2	+40.7	2.00	**3.80**	2.41	+89.9	+57.4
FI	3.48	**3.78**	3.41	+8.6	+11.0	3.48	**3.78**	3.41	+8.6	+11.0	-	-	-	-	-
FR	6.74	**6.60**	6.48	-2.0	+1.8	6.64	**6.50**	6.23	-2.1	+4.3	6.81	**6.64**	6.60	-2.4	+0.7
GR	2.48	**2.45**	2.62	-1.3	-6.5	-	-	-	-	-	2.48	**2.45**	2.62	-1.3	-6.5
HR	4.25	**4.19**	4.03	-1.4	+4.0	-	-	-	-	-	4.25	**4.19**	4.03	-1.4	+4.0
HU	3.61	**4.08**	3.71	+13.1	+10.0	3.21	**3.47**	3.31	+7.9	+4.8	3.83	**4.39**	3.96	+14.5	+10.9
IE	6.60	**6.97**	6.94	+5.5	+0.3	6.22	**6.67**	6.64	+7.2	+0.4	8.00	**8.25**	8.54	+3.2	-3.4
IT	3.77	**3.58**	3.58	-5.0	+0.0	-	-	-	-	-	3.77	**3.58**	3.58	-5.0	+0.0
LT	3.38	**3.04**	2.98	-10.2	+2.1	3.38	**3.04**	2.98	-10.2	+2.1	-	-	-	-	-
LU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LV	2.83	**2.53**	2.56	-10.6	-1.0	2.83	**2.53**	2.56	-10.6	-1.0	-	-	-	-	-
MT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NL	5.70	**5.98**	6.02	+5.0	-0.6	5.70	**5.98**	6.02	+5.0	-0.6	-	-	-	-	-
PL	3.60	**3.50**	3.30	-2.9	+6.0	3.56	**3.35**	3.15	-6.0	+6.4	3.85	**4.08**	3.98	+6.0	+2.4
PT	1.27	**2.10**	1.63	+66.0	+29.1	-	-	-	-	-	1.27	**2.10**	1.63	+66.0	+29.1
RO	2.36	**2.96**	2.70	+25.3	+9.8	1.84	**2.17**	2.01	+17.7	+7.7	2.64	**3.38**	3.09	+28.0	+9.4
SE	4.60	**4.53**	4.36	-1.5	+4.0	4.55	**4.50**	4.32	-1.1	+4.3	6.63	**5.41**	5.41	-18.4	+0.1
SI	4.72	**4.33**	4.21	-8.2	+2.9	-	-	-	-	-	4.72	**4.33**	4.21	-8.2	+2.9
SK	3.18	**3.44**	3.49	+8.3	-1.3	3.19	**3.43**	3.48	+7.6	-1.4	3.12	**3.56**	3.59	+13.8	-1.1
UK	5.51	**5.77**	5.73	+4.8	+0.8	4.97	**5.44**	5.31	+9.5	+2.5	6.38	**6.62**	6.40	+3.9	+3.5

Country	GRAIN MAIZE (t/ha)					RYE (t/ha)					TRITICALE (t/ha)				
	2012	2013	Avg 5yrs	%13/12	%13/5yrs	2012	2013	Avg 5yrs	%13/12	%13/5yrs	2012	2013	Avg 5yrs	%13/12	%13/5yrs
EU28	6.08	**6.97**	6.99	+14.7	-0.3	3.72	**3.72**	3.34	+0.0	+11.5	4.18	**4.22**	4.06	+1.2	+3.9
AT	10.70	**10.65**	10.68	-0.5	-0.3	4.48	**3.73**	4.07	-16.7	-8.4	5.04	**5.02**	5.06	-0.3	-0.8
BE	10.24	**11.55**	11.63	+12.8	-0.7	-	**-**	-	-	-	-	**-**	-	-	-
BG	3.68	**5.62**	4.77	+52.7	+17.7	-	**-**	-	-	-	2.45	**3.07**	3.11	+25.0	-1.4
CY	-	**-**	-	-	-	-	**-**	-	-	-	-	**-**	-	-	-
CZ	7.78	**8.26**	7.82	+6.2	+5.7	4.78	**4.00**	4.50	-16.2	-11.0	4.31	**4.28**	4.26	-0.6	+0.6
DE	10.48	**9.61**	9.94	-8.3	-3.3	5.47	**5.63**	4.99	+2.8	+12.8	6.18	**6.16**	5.82	-0.3	+6.0
DK	5.82	**-**	5.28	-	-	5.95	**5.50**	5.30	-7.6	+3.9	5.21	**5.22**	5.13	+0.2	+1.7
EE	-	**-**	-	-	-	3.39	**2.70**	2.65	-20.4	+1.9	-	**-**	-	-	-
ES	10.94	**10.95**	10.58	+0.1	+3.5	1.60	**2.21**	1.98	+38.0	+11.9	1.76	**2.56**	2.26	+45.4	+13.6
FI	-	**-**	-	-	-	3.18	**2.74**	2.76	-13.8	-0.8	-	**-**	-	-	-
FR	9.08	**9.06**	9.22	-0.2	-1.7	5.08	**4.92**	4.93	-3.2	-0.2	5.53	**5.42**	5.40	-2.1	+0.4
GR	10.61	**10.64**	10.79	+0.3	-1.4	2.11	**2.34**	2.08	+11.0	+12.5	-	**-**	-	-	-
HR	4.34	**6.71**	6.46	+54.7	+3.8	-	**-**	-	-	-	4.18	**4.03**	3.74	-3.6	+7.9
HU	3.98	**5.05**	6.17	+26.8	-18.0	2.24	**2.59**	2.20	+15.6	+17.9	3.11	**4.06**	3.27	+30.5	+24.2
IE	-	**-**	-	-	-	-	**-**	-	-	-	-	**-**	-	-	-
IT	8.36	**8.92**	9.15	+6.7	-2.6	-	**-**	-	-	-	-	**-**	-	-	-
LT	6.11	**7.62**	5.77	+24.8	+32.2	2.80	**2.51**	2.35	-10.3	+6.9	3.65	**3.01**	2.97	-17.5	+1.4
LU	-	**-**	-	-	-	-	**-**	-	-	-	-	**-**	-	-	-
LV	-	**-**	-	-	-	3.42	**3.03**	3.03	-11.5	-0.2	3.70	**2.63**	2.68	-28.9	-1.8
MT	-	**-**	-	-	-	-	**-**	-	-	-	-	**-**	-	-	-
NL	11.67	**11.40**	12.00	-2.3	-5.0	-	**-**	-	-	-	-	**-**	-	-	-
PL	7.35	**7.01**	6.51	-4.6	+7.7	2.77	**2.60**	2.53	-6.3	+2.7	3.38	**3.58**	3.41	+5.9	+4.7
PT	8.32	**8.17**	7.27	-1.8	+12.3	0.93	**0.99**	0.93	+6.2	+7.0	1.15	**1.69**	1.38	+47.3	+22.6
RO	2.16	**4.18**	3.53	+93.3	+18.4	-	**-**	-	-	-	2.93	**3.24**	3.02	+10.5	+7.0
SE	-	**-**	-	-	-	6.35	**5.86**	5.82	-7.8	+0.6	5.92	**4.99**	5.03	-15.7	-0.9
SI	7.01	**7.01**	7.88	+0.0	-11.0	-	**-**	-	-	-	-	**-**	-	-	-
SK	5.51	**6.23**	6.70	+13.0	-7.0	3.15	**2.76**	2.90	-12.3	-4.8	-	**-**	-	-	-
UK	-	**-**	-	-	-	-	**-**	-	-	-	3.50	**4.06**	4.02	+16.0	+1.1

Country	RAPE AND TURNIP RAPE (t/ha)					POTATO (t/ha)				
	2012	2013	Avg 5yrs	%13/12	%13/5yrs	2012	2013	Avg 5yrs	%13/12	%13/5yrs
EU28	3.11	**3.10**	3.04	-0.5	+1.8	30.49	**31.66**	30.57	+3.8	+3.6
AT	2.67	**2.58**	3.06	-3.4	-15.9	30.55	**31.35**	32.51	+2.6	-3.6
BE	3.93	**4.02**	4.09	+2.2	-1.9	41.96	**44.29**	45.04	+5.6	-1.7
BG	2.01	**2.65**	2.33	+31.6	+13.8	10.15	**16.96**	15.10	+67.1	+12.3
CY	-	**-**	-	-	-	-	**-**	-	-	-
CZ	2.76	**3.22**	2.90	+16.7	+11.1	27.98	**29.27**	27.01	+4.6	+8.4
DE	3.69	**3.80**	3.71	+2.9	+2.4	44.76	**42.25**	43.69	-5.6	-3.3
DK	3.75	**3.48**	3.64	-7.2	-4.2	42.13	**41.30**	39.98	-2.0	+3.3
EE	1.89	**1.97**	1.59	+4.4	+24.4	-	**-**	-	-	-
ES	1.80	**2.11**	1.81	+17.2	+16.7	30.06	**31.22**	29.71	+3.8	+5.1
FI	1.28	**1.24**	1.36	-2.9	-8.6	23.65	**27.92**	26.37	+18.1	+5.9
FR	3.41	**3.11**	3.45	-8.8	-9.7	40.87	**40.30**	43.43	-1.4	-7.2
GR	**-**	**-**	**-**	-	-	25.47	**26.76**	25.6	+5.0	+4.5
HR	2.67	**2.64**	2.62	-1.1	+0.6	14.73	**18.44**	16.56	+25.2	+11.4
HU	2.46	**2.69**	2.33	+9.5	+15.7	23.13	**24.72**	25.46	+6.9	-2.9
IE	-	**-**	-	-	-	-	**-**	-	-	-
IT	2.38	**2.32**	2.29	-2.6	+0.9	25.43	**25.14**	24.90	-1.1	+1.0
LT	2.43	**2.20**	2.05	-9.4	+7.5	17.11	**15.82**	14.95	-7.6	+5.8
LU	-	**-**	-	-	-	-	**-**	-	-	-
LV	2.64	**2.42**	2.24	-8.5	+7.8	19.57	**17.74**	17.61	-9.3	+0.7
MT	**-**	**-**	**-**	-	-	18.10	**-**	18.10	-	-
NL	-	**-**	-	-	-	45.18	**43.37**	45.43	-4.0	-4.5
PL	2.61	**3.03**	2.60	+15.8	+16.2	24.24	**23.19**	21.36	-4.3	+8.6
PT	-	**-**	-	-	-	14.71	**15.56**	15.33	+5.8	+1.5
RO	1.60	**1.96**	1.70	+22.3	+15.2	10.76	**15.27**	14.09	+41.9	+8.3
SE	2.94	**2.80**	2.80	-4.8	-0.3	32.55	**31.74**	31.58	-2.5	+0.5
SI	-	**-**	-	-	-	-	**-**	-	-	-
SK	1.99	**2.55**	2.24	+28.3	+14.1	**-**	**-**	**-**	-	-
UK	3.40	**3.32**	3.47	-2.1	-4.3	35.0	**41.08**	41.45	+17.4	-0.9

Country	SUGAR BEETS (t/ha)					SUNFLOWER (t/ha)				
	2012	2013	Avg 5yrs	%13/12	%13/5yrs	2012	2013	Avg 5yrs	%13/12	%13/5yrs
EU28	69.69	**69.76**	69.71	+0.1	+0.1	1.68	**1.91**	1.83	+13.7	+4.0
AT	63.22	**65.44**	69.88	+3.5	-6.4	2.27	**2.62**	2.69	+15.6	-2.3
BE	78.93	**76.09**	79.44	-3.6	-4.2	-	-	-	-	-
BG	-	-	-	-	-	1.78	**2.26**	1.91	+27.1	+18.4
CY	-	-	-	-	-	-	-	-	-	-
CZ	63.26	**62.34**	59.91	-1.4	+4.1	2.31	**2.36**	2.35	+1.9	+0.1
DE	68.86	**67.85**	67.47	-1.5	+0.6	2.38	**2.08**	2.13	-12.4	-2.0
DK	64.92	**62.37**	60.52	-3.9	+3.1	-	-	-	-	-
EE	-	-	-	-	-	-	-	-	-	-
ES	88.71	**93.90**	85.60	+5.8	+9.7	0.81	**1.04**	1.10	+27.9	-5.9
FI	34.67	**40.88**	38.38	+17.9	+6.5	-	-	-	-	-
FR	86.56	**89.96**	88.97	+3.9	+1.1	2.32	**2.35**	2.42	+1.6	-2.9
GR	58.98	**62.13**	64.73	+5.3	-4.0	2.59	**2.54**	1.91	-2.1	+32.6
HR	39.11	**57.66**	51.14	+47.4	+12.7	2.68	**3.23**	2.70	+20.4	+19.3
HU	43.86	**49.33**	54.52	+12.5	-9.5	2.15	**2.29**	2.29	+6.6	-0.2
IE	-	-	-	-	-	-	-	-	-	-
IT	54.92	**53.43**	56.14	-2.7	-4.8	1.66	**2.22**	2.13	+33.4	+4.1
LT	52.24	**51.88**	46.49	-0.7	-11.6	-	-	-	-	-
LU	-	-	-	-	-	-	-	-	-	-
LV	-	-	-	-	-	-	-	-	-	-
MT	-	-	-	-	-	-	-	-	-	-
NL	78.86	**74.92**	76.95	-5.0	-2.6	-	-	-	-	-
PL	58.25	**53.07**	52.94	-8.9	+0.2	-	-	-	-	-
PT	-	-	-	-	-	0.56	**0.60**	0.57	+6.1	+3.6
RO	26.93	**38.30**	34.76	+42.2	+10.2	1.37	**1.64**	1.53	+20.1	+7.3
SE	55.78	**55.80**	56.99	+0.0	-2.1	-	-	-	-	-
SI	-	-	-	-	-	-	-	-	-	-
SK	45.41	**52.36**	56.35	+15.3	-7.1	2.19	**2.10**	2.21	-4.3	-5.4
UK	70.00	**66.84**	67.72	-4.5	-1.3	-	-	-	-	-

Notes: Yields are forecast for crops with more than 10,000 ha per country; figures are rounded to 10 kg

Sources: 2008-2013 data come from DG AGRICULTURE short term Outlook data (dated June 2013, received on 09/07/2013), EUROSTAT Eurobase (last update: 19/07/2013) and EES (last update: 17/07/2013)
2013 yields come from MARS CROP YIELD FORECASTING SYSTEM (CGMS output up to 20/08/2013)

Country	WHEAT (t/ha)					BARLEY (t/ha)					GRAIN MAIZE (t/ha)				
	2012	2013	Avg 5yrs	%13/12	%13/5yrs	2012	2013	Avg 5yrs	%13/12	%13/5yrs	2012	2013	Avg 5yrs	%13/12	%13/5yrs
BY	3.50	**3.59**	3.44	+2.7	+4.5	3.23	**3.31**	3.24	+2.4	+2.1	5.26	**6.00**	5.17	+14.1	+16.1
DZ	1.76	**1.72**	1.50	-2.5	+15.0	1.54	**1.65**	1.36	+7.0	+21.7	-	-	-	-	-
MA	1.24	**2.10**	1.67	+69.7	+25.2	0.63	**1.24**	1.13	+96.7	+9.5	-	-	-	-	-
TN	1.93	**1.55**	1.86	-19.5	-16.3	1.16	**0.94**	1.26	-18.6	-25.0	-	-	-	-	-
TR	2.67	**2.53**	2.52	-5.4	+0.4	2.58	**2.51**	2.42	-2.7	+3.9	7.38	**7.11**	7.23	-3.7	-1.7
UA	2.80	**3.05**	3.12	+8.9	-2.3	2.11	**2.13**	2.39	+1.0	-10.8	4.79	**5.54**	5.09	15.6	+8.7

Sources: 2008-2013 data come from FAO, PSD-online, INRA Maroc, MinAGRI Tunisia and DSASI Algeria
2013 yields come from MARS CROP YIELD FORECASTING SYSTEM (CGMS output up to 20/08/2013)

Yield maps


Total wheat - yield forecast 2013
Actual yield versus average yield 2008 - 2012
Yield figures 2013 are expressed in t/ha and rounded to 100 kg
lower yield (< -4 %)
comparable to average
better yield (> 4 %)

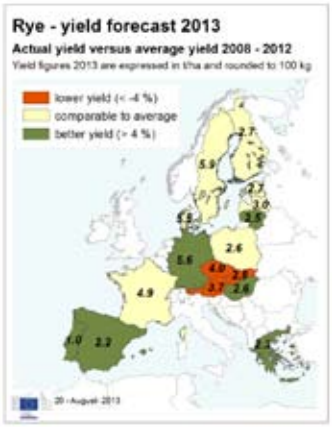

Soft wheat - yield forecast 2013
Actual yield versus average yield 2008 - 2012
Yield figures 2013 are expressed in t/ha and rounded to 100 kg
lower yield (< -4 %)
comparable to average
better yield (> 4 %)

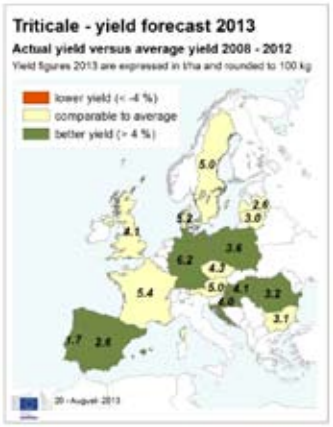

Durum wheat - yield forecast 2013
Actual yield versus average yield 2008 - 2012
Yield figures 2013 are expressed in t/ha and rounded to 100 kg
lower yield (< -4 %)
comparable to average
better yield (> 4 %)


Total barley - yield forecast 2013
Actual yield versus average yield 2008 - 2012
Yield figures 2013 are expressed in t/ha and rounded to 100 kg
lower yield (< -4 %)
comparable to average
better yield (> 4 %)


Winter barley - yield forecast 2013
Actual yield versus average yield 2008 - 2012
Yield figures 2013 are expressed in t/ha and rounded to 100 kg
lower yield (< -4 %)
comparable to average
better yield (> 4 %)


Spring barley - yield forecast 2013
Actual yield versus average yield 2008 - 2012
Yield figures 2013 are expressed in t/ha and rounded to 100 kg
lower yield (< -4 %)
comparable to average
better yield (> 4 %)

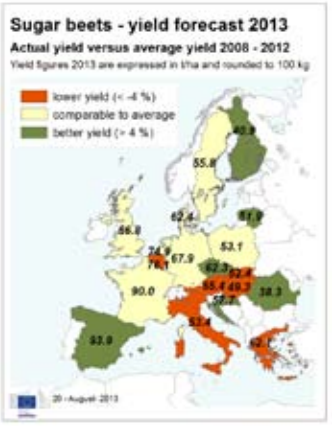

Rye - yield forecast 2013
Actual yield versus average yield 2008 - 2012
Yield figures 2013 are expressed in t/ha and rounded to 100 kg
lower yield (< -4 %)
comparable to average
better yield (> 4 %)


Triticale - yield forecast 2013
Actual yield versus average yield 2008 - 2012
Yield figures 2013 are expressed in t/ha and rounded to 100 kg
lower yield (< -4 %)
comparable to average
better yield (> 4 %)


Grain maize - yield forecast 2013
Actual yield versus average yield 2008 - 2012
Yield figures 2013 are expressed in t/ha and rounded to 100 kg
lower yield (< -4 %)
comparable to average
better yield (> 4 %)

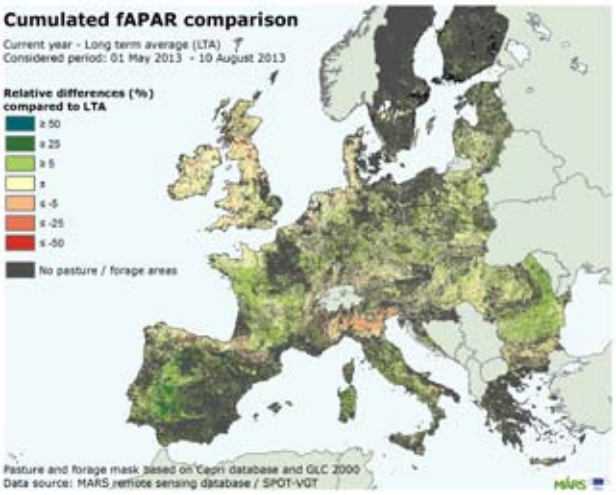

Rape and turnip - yield forecast 2013
Actual yield versus average yield 2008 - 2012
Yield figures 2013 are expressed in t/ha and rounded to 100 kg
lower yield (< -4 %)
comparable to average
better yield (> 4 %)

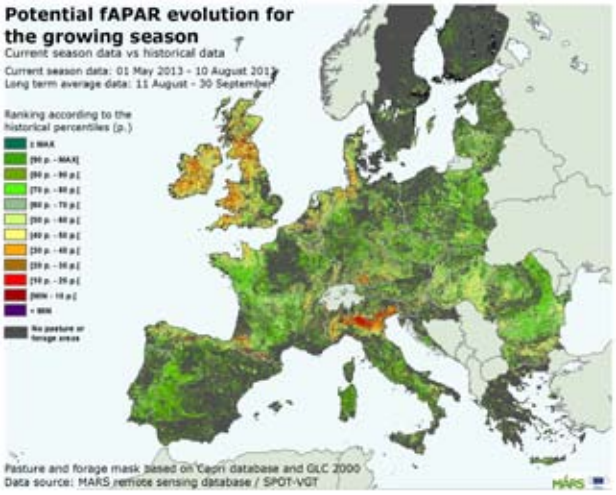

Sunflower - yield forecast 2013
Actual yield versus average yield 2008 - 2012
Yield figures 2013 are expressed in t/ha and rounded to 100 kg
lower yield (< -4 %)
comparable to average
better yield (> 4 %)


Sugar beets - yield forecast 2013
Actual yield versus average yield 2008 - 2012
Yield figures 2013 are expressed in t/ha and rounded to 100 kg
lower yield (< -4 %)
comparable to average
better yield (> 4 %)

5. Pastures in Europe - update remote sensing monitoring

Favourable weather conditions support high yield potential





In most of the countries analysed, high biomass production levels are expected, thanks to above-average temperatures in July and August. The effects of the unfavourable weather conditions at the end of the spring are, however, still noticeable in the UK and Ireland, and in the fodder maize areas of northern Italy.

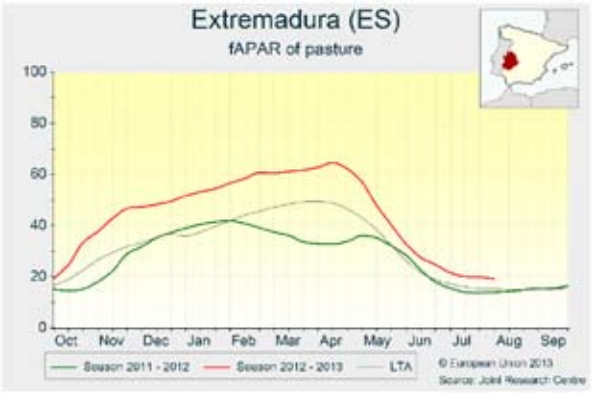
The current season has been positive for **Spain** and **Portugal**. Biomass production levels are the highest of the past 15 years in the Dehesa area in the southwest of the Iberian Peninsula. In northern Spain, lack of precipitation during the past month has resulted in a moderate decrease in green biomass. The outlook for the season as a whole remains, however, positive.

In **Italy**, crop growth in the fodder maize areas of *Lombardia*, *Veneto* and *Piemonte* has only partially recovered after unfavourable weather conditions in spring. Despite warm temperatures and intermittent rainfall of the previous month, the expectations for the rest of the season remain, therefore, below an average year.

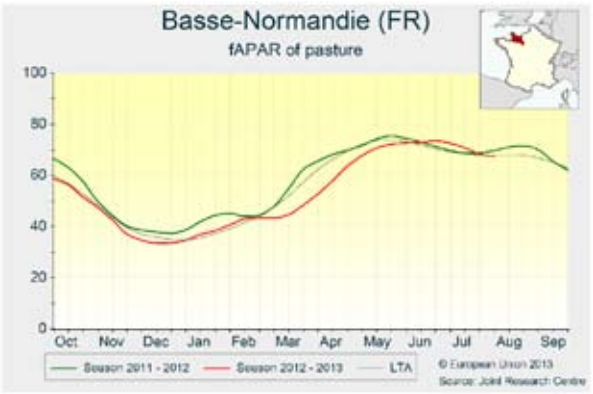
In **France**, the formation of biomass in almost all pasture and forage areas is substantially higher than average, supported by a general temperature increase during the past month. The outlook for this season is positive, despite the adverse weather experienced in spring. In the **Benelux** region, biomass production levels were also high during July thanks to the unusually warm temperatures registered during the second half of the month. Cold weather conditions characterised most of the growing season in the **UK** and **Ireland**, and the effects of these unfavourable weather conditions are still noticeable, although temperatures in July were above average. Moreover, heavy storms since the end of July have limited production rates. By contrast, pasture development in the northernmost regions of **Germany** and **Denmark** has recovered to average conditions during July and the first week of August. Thanks to the rainfall during the past two weeks expectations for the forthcoming months are positive.

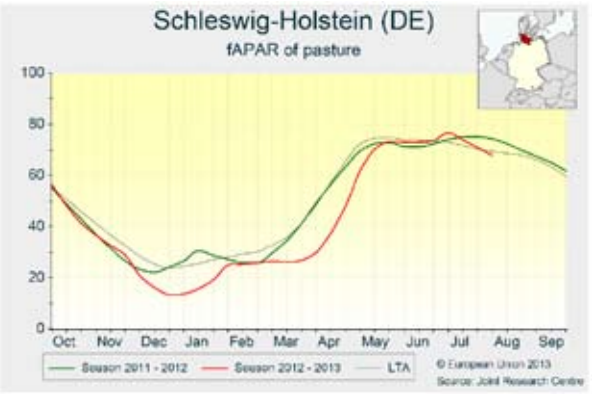
In southern **Germany**, **Austria**, the **Czech Republic** and **Slovakia**, the analysis of satellite images reveals an early senescence of pastures, associated with the relatively hot and dry conditions that have prevailed since the second half of July. Rainfall is expected in the coming days (see Section 1.3) and could mitigate negative effects on grasslands. Early senescence of pastures is also observed in **Romania** and **Hungary**, where, however, the effect is still incipient, and biomass formation has been substantially higher than usual during June and most of July. The expectations for the second half of August are therefore around average.

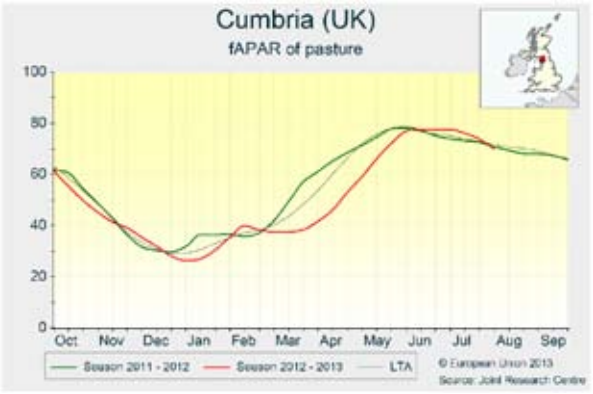
In **Poland** and the Baltic countries, weather conditions remained favourable during the second half of July and August. The amount of biomass in grasslands substantially exceeds the values of an average year, and this season is one of the best of the past 10 years.

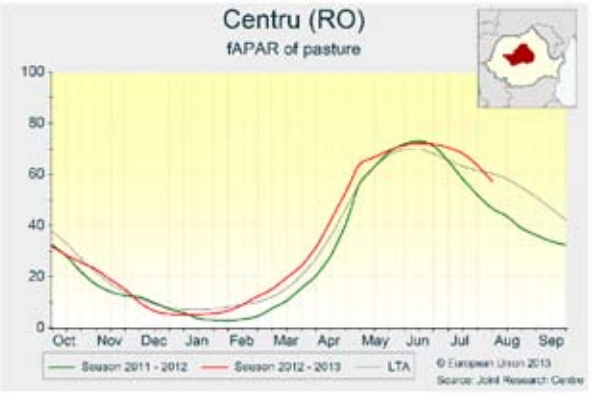

Extremadura (ES)
fAPAR of pasture
100
80
60
40
20
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2011 - 2012
Season 2012 - 2013
LTA
© European Union 2013
Source: Joint Research Centre


Lombardia (IT)
fAPAR of pasture
100
80
60
40
20
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2011 - 2012
Season 2012 - 2013
LTA
© European Union 2013
Source: Joint Research Centre


Basse-Normandie (FR)
fAPAR of pasture
100
80
60
40
20
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2011 - 2012
Season 2012 - 2013
LTA
© European Union 2013
Source: Joint Research Centre

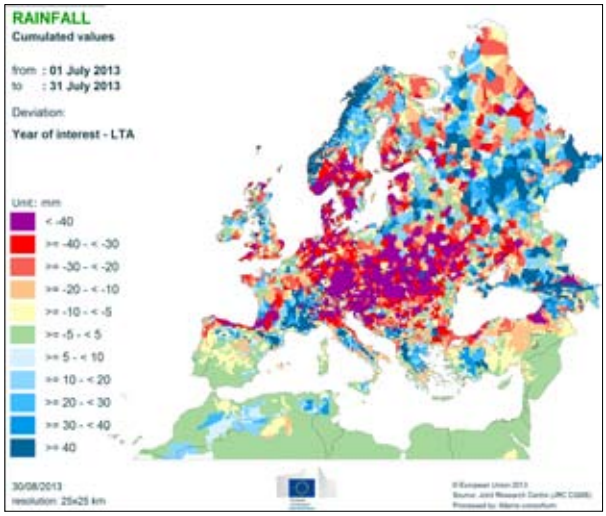

Schleswig-Holstein (DE)
fAPAR of pasture
100
80
60
40
20
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2011 - 2012
Season 2012 - 2013
LTA
© European Union 2013
Source: Joint Research Centre

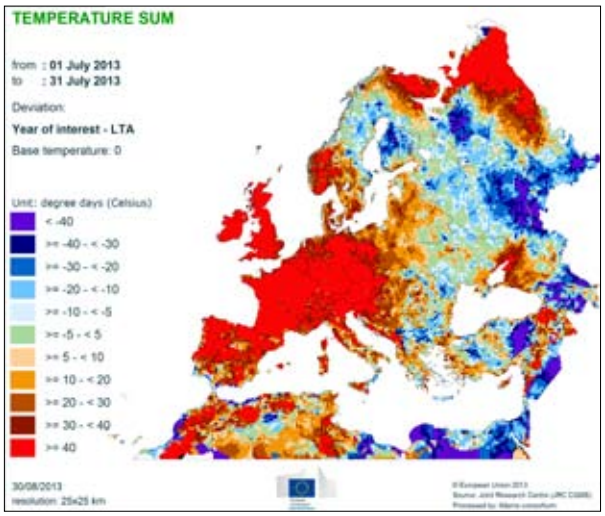

Cumbria (UK)
fAPAR of pasture
100
80
60
40
20
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2011 - 2012
Season 2012 - 2013
LTA
© European Union 2013
Source: Joint Research Centre

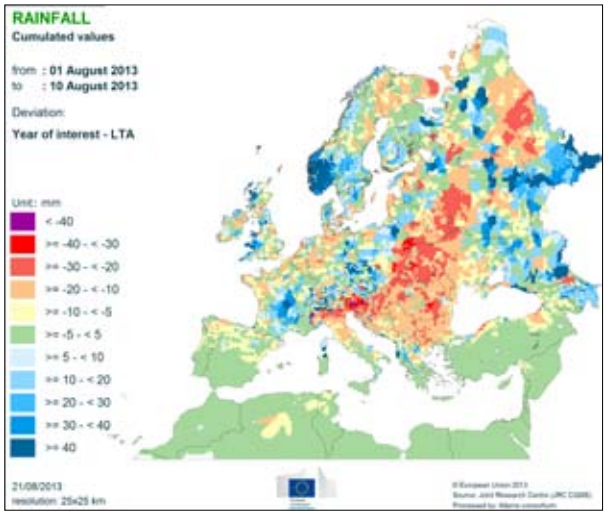

Centru (RO)
fAPAR of pasture
100
80
60
40
20
0
Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
Season 2011 - 2012
Season 2012 - 2013
LTA
© European Union 2013
Source: Joint Research Centre

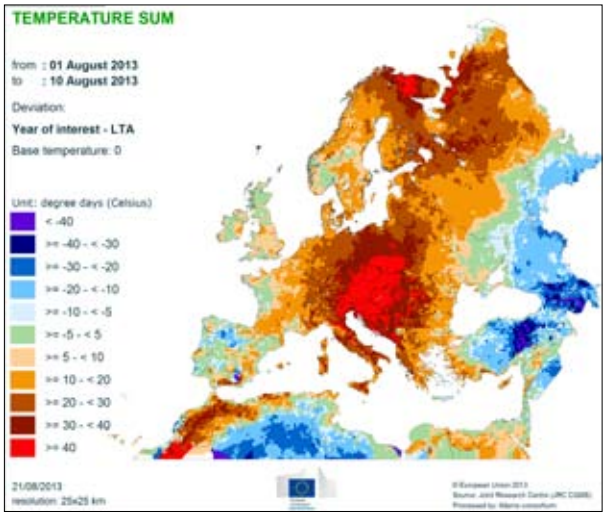
7. Atlas maps

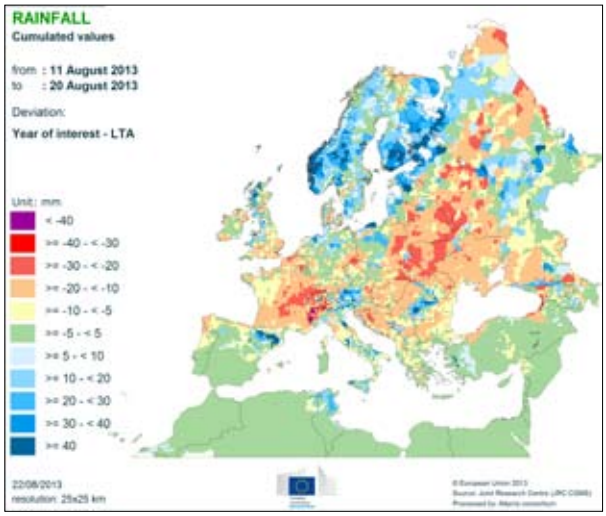
Precipitation and temperature regime

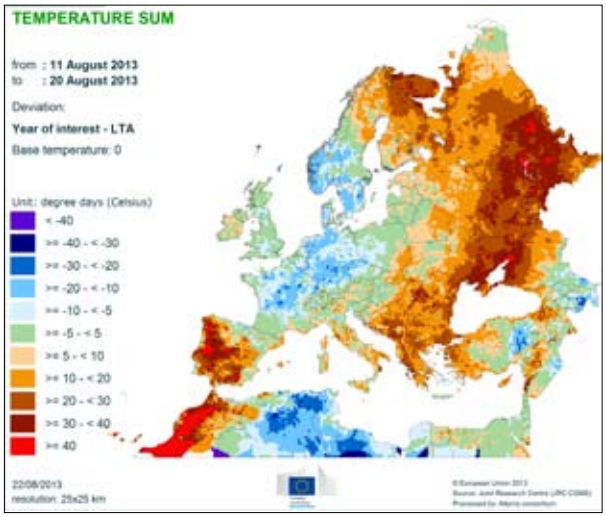




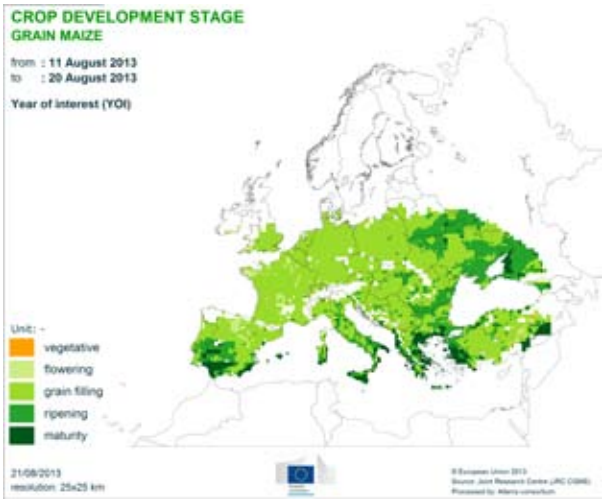


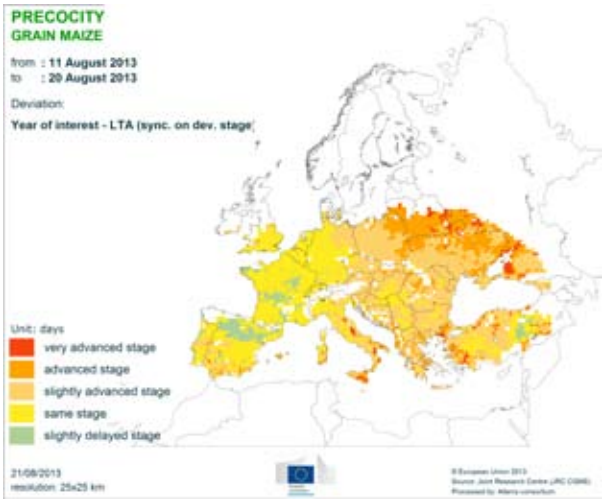


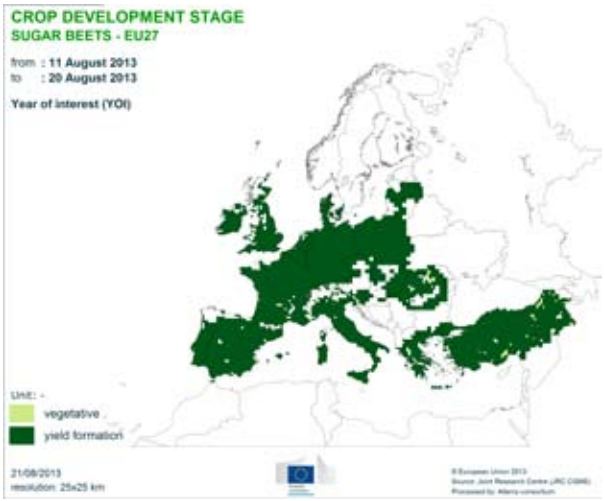


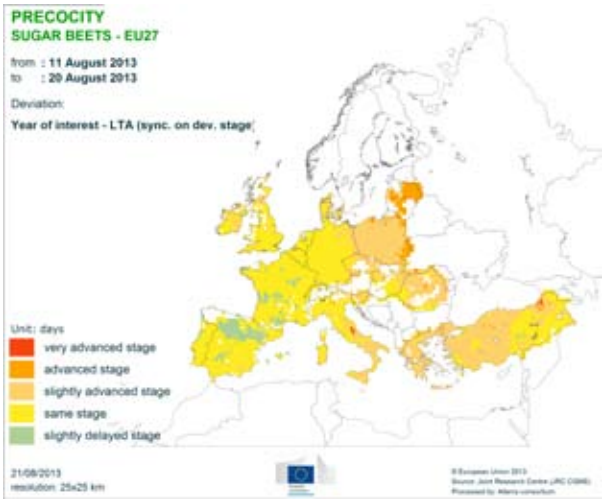


Crop development stages and precocity

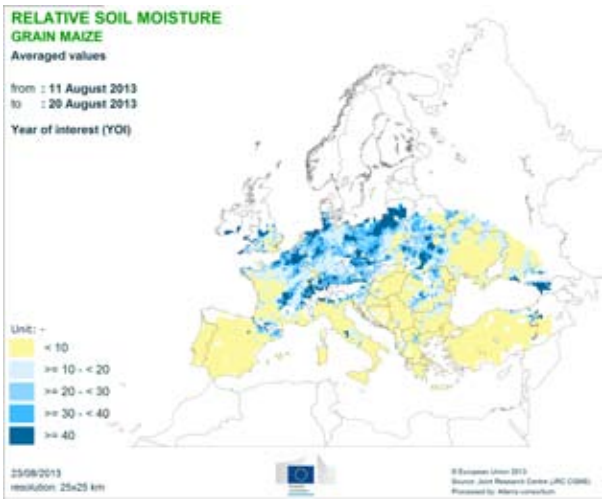


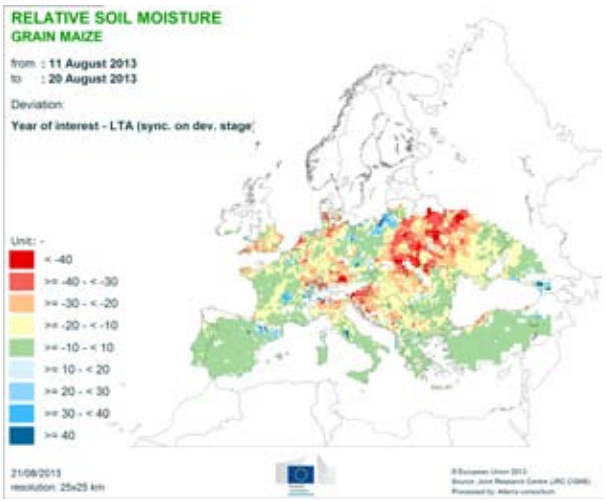


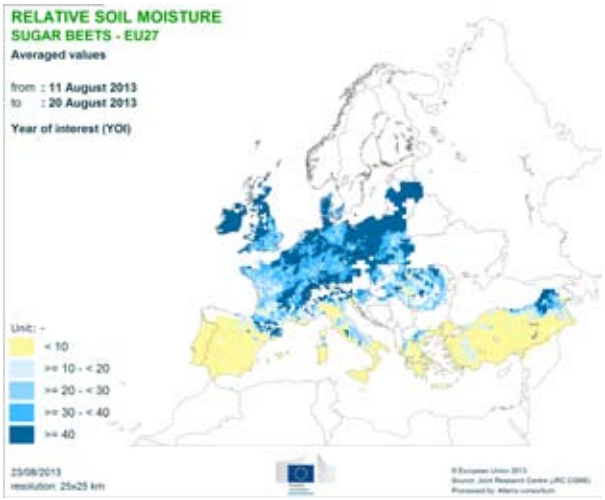


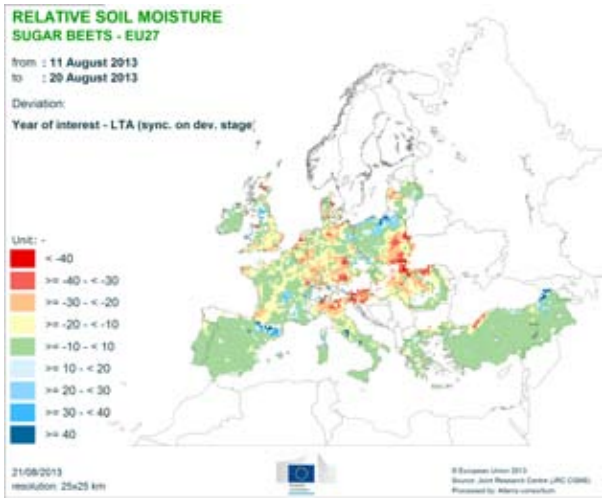


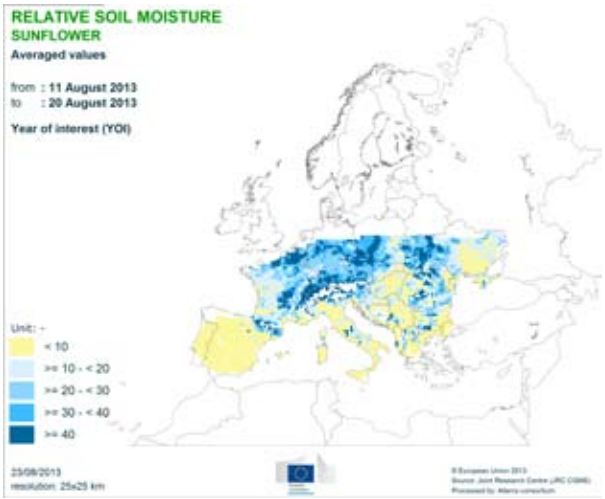
Relative soil moisture

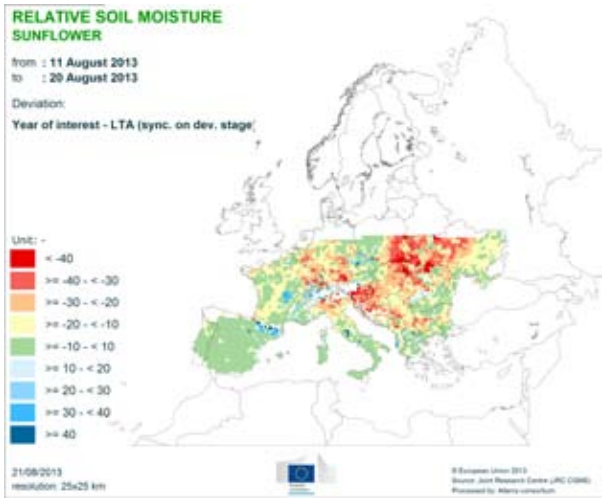




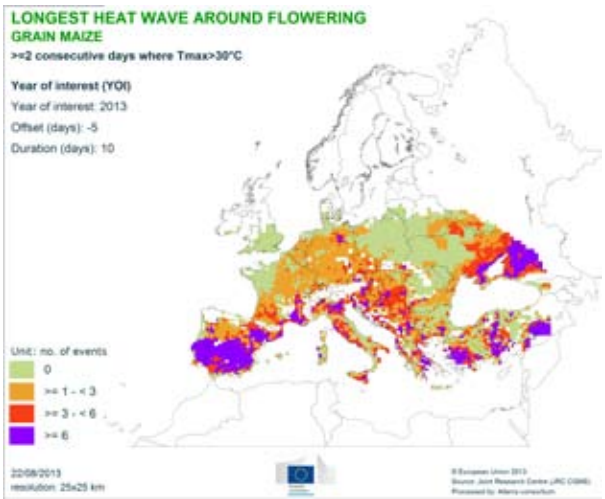


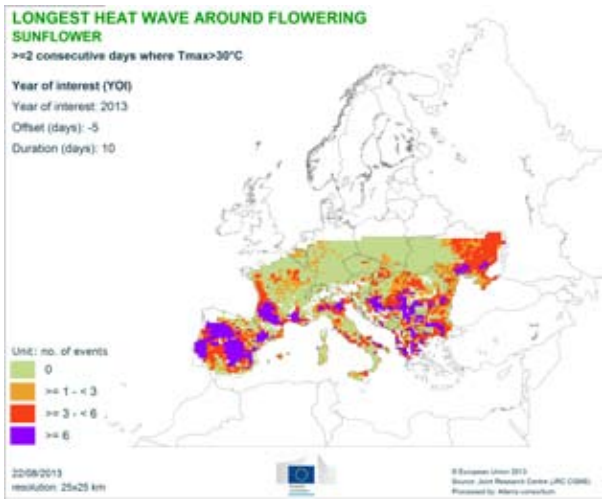






Longest heat wave around crop development stage





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2013 MARS Bulletins

Date	Publication	Reference
21 Jan	Agromet. analysis	Vol. 21 No. 1
25 Feb	Agromet. analysis	Vol. 21 No. 2
25 Mar	Agromet. analysis and yield forecast	Vol. 21 No. 3
22 Apr	Agromet. analysis, remote sensing analysis, and yield forecast	Vol. 21 No. 4
21 May	Agromet. analysis, remote sensing analysis, and yield forecast, pasture analysis	Vol. 21 No. 5
17 Jun	Agromet. analysis, remote sensing analysis, and yield forecast, pasture update	Vol. 21 No. 6
22 Jul	Agromet. analysis, remote sensing analysis, and yield forecast, pasture update, rice analysis	Vol. 21 No. 7
26 Aug	Agromet. analysis and yield forecast, pasture update	Vol. 21 No. 8
16 Sep	Agromet. analysis, remote sensing analysis and yield forecast, pasture update	Vol. 21 No. 9
21 Oct	Agromet. analysis, remote sensing analysis and yield forecast, pasture analysis, rice analysis	Vol. 21 No. 10
25 Nov	Agromet. analysis, campaign review and yield forecast	Vol. 21 No. 11
16 Dec	Agromet. analysis	Vol. 21 No. 12

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